

(FILE 'HOME' ENTERED AT 13:44:59 ON 09 JUN 2004)

FILE 'CAPLUS' ENTERED AT 13:53:14 ON 09 JUN 2004

L1 4 S TSIEN, RO?/IN AND ((ENERGY TRANSFER) OR FRET) AND (DIMER? OR

FILE 'WPIDS' ENTERED AT 14:00:27 ON 09 JUN 2004

L2 29 S ((ENERGY TRANSFER) OR FRET) AND (DIMER? OR OLIGOMERIZ?)

FILE 'USPATFULL' ENTERED AT 14:05:45 ON 09 JUN 2004

L3 2609 S ((ENERGY TRANSFER) OR FRET) AND (DIMER? OR OLIGOMERIZ?)

L4 25 S (((ENERGY TRANSFER) OR FRET) AND (DIMER? OR OLIGOMERIZ?)) /CLM

FILE 'CAPLUS' ENTERED AT 14:20:58 ON 09 JUN 2004

L5 1838 S (((ENERGY TRANSFER) OR FRET) AND (DIMER? OR OLIGOMERIZ?))

L6 467 S L5 AND (PROTEIN# OR ENZYME#)

L7 356 S L6 AND FLUOR?

L8 25 S L7 AND KINASE

L9 1 S L8 AND PATENT/DT

L10 24 S L8 NOT L9

d his

(FILE 'HOME' ENTERED AT 15:43:21 ON 08 JUN 2004)

FILE 'CAPLUS' ENTERED AT 15:43:42 ON 08 JUN 2004

L1 266 S FRET AND PHOSPH?
L2 81 S L1 AND KINASE
L3 26 S L2 AND PATENT/DT
L4 55 S L2 NOT L3
L5 55 SORT L4 PY

FILE 'USPATFULL' ENTERED AT 15:58:37 ON 08 JUN 2004

L6 64 S (KINASE AND MODULAT? AND METHOD AND SCREEN? AND FLUOR?)/CLM
L7 0 S FRET AND KINASE/YYY

FILE 'CAPLUS' ENTERED AT 16:21:00 ON 08 JUN 2004

L8 6 S (FRET AND KINASE?)/TI
L9 128 S \FRET AND KINASE?
L10 128 S FRET AND KINASE?
L11 39 S FRET AND PHOSPHATE
L12 26 S (PHOSPHATE AND (FLUORESCENCE RESONANCE ENERGY TRANSFER)/IT) N

d his

(FILE 'HOME' ENTERED AT 10:43:58 ON 09 JUN 2004)

FILE 'CAPLUS' ENTERED AT 10:44:47 ON 09 JUN 2004

FILE 'USPATFULL' ENTERED AT 10:44:55 ON 09 JUN 2004

L1 87 S TSIEN, RO?/IN
L2 70 S L1 AND ((ENERGY TRANSFER) OR FRET)
L3 22 S L2 AND ((ENERGY TRANSFER) OR FRET)/CLM

=> d 3,9,10,16,18,22 bib,abs,kwic

L3 ANSWER 3 OF 22 USPATFULL on STN

AN 2003:265214 USPATFULL

TI Emission ratiometric indicators of phosphorylation

IN **Tsien, Roger Y.**, La Jolla, CA, UNITED STATES

Ting, Alice Y., La Jolla, CA, UNITED STATES

Zhang, Jin, San Diego, CA, UNITED STATES

PI US 2003186229 A1 20031002

AI US 2001-865291 A1 20010524 (9)

RLI Continuation-in-part of Ser. No. US 1999-396003, filed on 13 Sep 1999,
ABANDONED Continuation of Ser. No. US 1997-792553, filed on 31 Jan 1997,
GRANTED, Pat. No. US 5981200 Continuation-in-part of Ser. No. US
1996-594575, filed on 31 Jan 1996, PENDING

DT Utility

FS APPLICATION

LREP HELLER EHRLICH WHITE & MCAULIFFE LLP, 275 MIDDLEFIELD ROAD, MENLO PARK,
CA, 94025-3506

CLMN Number of Claims: 94

ECL Exemplary Claim: 1

DRWN 7 Drawing Page(s)

LN.CNT 3148

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A chimeric phosphorylation indicator is provided. A chimeric phosphorylation indicator can contain a donor molecule, a phosphorylatable domain, a phosphoaminoacid binding domain (PAABD), and an acceptor molecule. A chimeric phosphorylation indicator also can contain a phosphorylatable polypeptide and a fluorescent protein, wherein the phosphorylatable polypeptide is contained within the sequence of the fluorescent protein, or wherein the fluorescent protein is contained within the sequence of the phosphorylatable polypeptide. Also provided are polynucleotides encoding such chimeric phosphorylation indicators, as well as kits containing the indicators or the polynucleotides. In addition, a method of using the chimeric phosphorylation indicators to detect a kinase or phosphatase in a sample is provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IN **Tsien, Roger Y.**, La Jolla, CA, UNITED STATES

SUMM . . . to a phosphoaminoacid when present in the phosphorylatable domain, the donor molecule and the acceptor molecule exhibit a detectable resonance **energy transfer** when the donor is excited, and the phosphorylatable domain and phosphoaminoacid binding domain do not substantially emit light to excite. . .

SUMM [0011] Where a chimeric phosphorylation indicator of the invention contains a fluorescent protein donor molecule, resonance **energy transfer** can be detected as fluorescence resonance **energy transfer (FRET)**. Where the donor molecule is a luminescent molecule, resonance **energy transfer** is detected as luminescent resonance **energy transfer**). Depending on the particular structure of the chimeric phosphorylation indicator as disclosed herein, **FRET** or **LRET** can be increased or decreased due to phosphorylation of the indicator by